IN THE CLAIMS:

Cancel claims 2 and 8 without prejudice.

Amend the following claims:

3. (Amended) A linear synchronous motor comprising:

a) at least one primary part (1) and at least one secondary part (6);

b) the secondary part (6) has a sequence of poles (10) formed by permanent magnets;

c) the length of the secondary part (6) is greater than the length of the primary part (1) in the movement direction (5),

d) the primary part (1) has primary part slots (9) which are suitable for holding monophase or polyphase windings,

e) the primary part (1) has means which lead to a change in the magnetic force in the movement direction (5) of the linear motor in the region of the end pieces (2) of the primary part (1), and

f) the end faces (14) of the end pieces (2) extend perpendicular to the movement direction (5) of the linear motor,

wherein the air gap between the end pieces (2) and the secondary part (6) changes gradually within a single pole pitch so as to realize a continuous increase or decrease in the magnetic force in the movement direction (5) of the linear motor in the region of the end pieces (2) of the primary part (1), wherein the geometry of the parts, facing the air gap, of the end pieces (2) is selected in accordance with the following relationship:

$$y(x) = \delta_0 \left[\frac{1}{\sqrt{1 - \frac{x}{x_0} \cdot \left[1 - \left(\frac{1}{1 + \frac{y_0}{\delta_0}} \right) \right]}} - 1 \right]$$

wherein

δ_0 is the magnetically active air gap between the secondary part and the primary part, including the height of the permanent magnets,

x_0 is the extent of the part of the end piece in the direction of movement of the linear motor having a non-constant air gap,

y_0 is a height of the part of the end piece having a non-constant air gap at x_0 and,

y(x) is the coordinate of the part of the end piece having a non-constant air gap at the point x.

4. (3X Amended) The linear synchronous motor as claimed in claim 3, characterized in that the gaps (13), located between the poles (10), of the secondary part (6) exhibit an angle (20) which differs from 90° with respect to the movement direction (5) of the linear motor.

5. (3X Amended) The linear synchronous motor as claimed in claim 3, characterized in that the gaps (13) located between the poles (10) have a varying gap width (P).

6. (3X Amended) The linear synchronous motor as claimed in claim 3, characterized in that the end pieces (2) include at least one partial stack of laminations made of ferromagnetic material, said laminations directed essentially perpendicular to the direction of movement (5) of the linear motor.

7. (3X Amended) The linear synchronous motor as claimed in claim 3, characterized in that the end pieces (2) are configured for attachment onto the primary part (1).

9. (Amended) A linear synchronous motor comprising:

at least one primary part defined by a length and having slots for receiving monophase or polyphase windings, said primary part having end pieces extending perpendicular to a direction of movement of the linear motor;

at least one secondary part having a series of poles formed by permanent magnets, said secondary part defined by a length which is greater than the length of the primary part in a direction of movement of the linear motor; and

means, associated to the primary part, for changing the magnetic force in the direction of movement of the linear motor in the region of the end pieces of the primary part,

wherein an air gap between the end pieces and the secondary part changes gradually within a single pole pitch so as to realize a continuous increase or

decrease in the magnetic force in the movement direction of the linear motor in the region of the end pieces of the primary part,

wherein each said end piece has a part adjacent the air gap, said part of the end piece having a geometry selected in accordance with the following relationship:

$$y(x) = \delta_0 \left[\frac{1}{\sqrt{1 - \frac{x}{x_0} \cdot \left[1 - \left(\frac{1}{1 + \frac{y_0}{\delta_0}} \right) \right]}} - 1 \right]$$

wherein

δ_0 is the magnetically active air gap between the secondary part and the primary part, including a height of the permanent magnets,

x_0 is the extent of the part of the end piece in the direction of movement of the linear motor having a non-constant air gap,

y_0 is a height of the part of the end piece having a non-constant air gap at x_0 and,

$y(x)$ is the coordinate of the part of the end piece having a non-constant air gap at the point x.

10. (Amended) The linear synchronous motor of claim 10, wherein a pole gap is defined between neighboring poles of the secondary part at an angle which differs from 90° with respect the direction of movement of the linear motor.

11. (Amended) The linear synchronous motor of claim 10, wherein the pole gap has a varying gap width.

12. (Twice Amended) The linear synchronous motor of claim 10, wherein the end pieces include at least one partial stack of laminations, which is made of ferromagnetic material, said laminations directed essentially perpendicular to the direction of movement of the linear motor.

13. (Amended) The linear synchronous motor of claim 10, wherein the end pieces are configured for attachment onto the primary part.

14. (Amended) The linear synchronous motor as claimed in claim 3, characterized in that the end pieces (2) of the primary part (1) are constructed in the absence of slots and without carrying a winding.

15. (Amended) The linear synchronous motor of claim 10, wherein each said end pieces is constructed in the absence of a slot and without carrying a winding.